STATUS OF CLAIMS AND SUPPORT FOR AMENDMENTS TO CLAIMS

Upon entry of this reply, claims 1-44 will remain pending.

Thus, claims 1-44 are pending with no claims being canceled. Of these pending claims, claims 1-29 are original patent claims, and claims 30-44 have been added in the instant reissue.

In the present amendment, claim 38 has been amended to correct a typographical error therein in the same manner that claim 9 was amended in the amendment, filed July 15, 2005. Thus, claim 38 is merely being amended herein to correct a typographical error. Accordingly, entry of this amendment after final rejection is appropriate, because it merely places the claims in better condition for allowance and/or appeal, and does not raise new issues or new matter which would require further search and/or consideration.

REMARKS/ARGUMENTS

As noted above, upon entry of this reply, claims 1-44 will remain pending.

Claims 1-29 are original patent claims.

Claims 30-44 have been added in the present reissue application.

Claim 38 is amended herein to correct a typographical error similar to the typographical in claim 9 appearing in the printed patent.

Reconsideration and allowance of the application are respectfully requested.

Discussion Of Amendments To The Specification

The specification has been amended at column 12, lines 30-45, and at column 12, line 45 to column 13, line 10, to change the reference numeral of the partition wall to 8.

Moreover, the specification has been amended at column 13, line 63 to column 14, lines 15, to change "third" to ---fourth--- and to correct a typographical error by changing "upside-own" to ---upside-down---.

Still further, the specification has been amended at column 14, lines 42-56, to change "sixth" to ---seventh--- and to correct a typographical error by changing "upside-own" to ---upside-down---.

Drawings

Applicants clarify the record by again noting that the drawings submitted with the application have not been objected to. Applicants therefore again assume that all formality requirements have been complied with in connection with the submission of formal drawings.

Discussion Of Interview

Applicants express appreciation for the courtesies extended by Examiners McGinty and Leung to Arnold Turk during a March 28, 2006 personal interview at the Patent and Trademark Office.

During the interview, the new matter objection/rejection was discussed, and Applicants' representative again pointed to a number of locations in the originally filed specification and drawings supporting Applicants' position that the subject matter does not constitute new matter, including portions noted in the Interview Summary. In particular, the examiners were again referred to the disclosure at column 8, beginning at line 5, wherein it is disclosed that, "Through the method for preheating the raw material feed channel is not limited to specified one, another preheating method may be employed in which, for example, at least a portion of the raw material feed channel is held in contact with the surface of a least one of the reforming reaction unit, the shift reaction unit and the CO oxidation unit..." Also, the specification, at column 15, first full paragraph, and paragraph 23, first full paragraph, was referenced as illustrative of embodiments wherein water and raw material are fed into separate pipes such as separate feed pipes 6a and 6b of feed path 6.

It was also again noted that the specification utilizes the language "raw material supply path" and this path can be composed of a raw material pipe 6a and steam pipe 6b. It was argued that one having ordinary skill in the art reading Applicants' originally filed disclosure would readily understand that Applicants were in possession of preheating either or both of the raw material and water on the CO oxidation unit when reviewing Applicants' originally filed disclosure.

Agreement was not reached, and the Examiners indicated that Applicants arguments will be further considered upon presentation of a written response.

Confirmation Of Patentability Of Patent Claims

Applicants once again express appreciation for the confirmation of patentability of claims 1-29 of the '479 patent.

Response to New Matter Objection And Rejection

The Amendment filed July 15, 2005 is objected to under 35 U.S.C. 132 and claims 30-44 are rejected under 35 U.S.C. 112, first paragraph.

With regard to the specification, it is asserted that in column 14, lines 30-40, in the last sentence of the paragraph, Applicants have introduced the statement that, "....cooling of the outside surface of the CO oxidation unit is obtainable by atmospheric, raw material or water cooling." The objection contends that is unclear as to where support may be found in the original disclosure for the cooling to be conducted by "raw material or water cooling" as it is contended that raw material and water are supplied to the apparatus as a mixture, thereby causing the cooling of the outside surface of the CO oxidation unit to be conducted by a "raw material and water mixture cooling." The objection relies upon the specific disclosure directed to Fig. 6 wherein raw material and water are introduced into a raw material supply path 6 arranged as a coil pattern around the outer side of the shift reaction unit 3 and the CO oxidation unit 4.

Similarly, with regard to the claims, it is contended that it is unclear where the "raw material or water cooling" is located in the specification or drawings. The Examiner contends that it appears that the raw material and water are supplied to the apparatus as a mixture, thereby causing the cooling of the outside surface of the CO oxidation unit to be conducted by a "raw material and water mixture cooling". In particular, the Examiner again

points to Fig. 6 for a showing of "Raw material + Water" being introduced as a mixture via raw material supply path 6, on the outside surface of CO oxidation unit 4.

In response to these grounds of objection/ rejection, Applicants respectfully submit that a review of Applicants' originally filed disclosure readily indicates that Applicants' were in possession of "said CO oxidation unit including an outside surface, and being arranged to be cooled by atmospheric, raw material or water cooling of the outside surface" at the time of filing their application so that the specification and claims are not properly objected or rejected as containing new matter.

Attention is once again directed to column 7, beginning at line 48 and continuing to column 8, line 17, wherein it is disclosed that (emphasis added):

> In the reforming apparatus according to the present invention, it is preferable that at least a portion of a raw material feed channel for feeding the raw material and steam to the raw material reforming unit is arranged in a position in which the raw material and the steam are preheated by heat from the heat source of the raw material reforming unit (FIGS. 3 to 27).
>
> That is, while the raw material reforming unit is fed with the raw material and steam which are in a state of mixture through the raw material feed channel, the capability of the raw material feed channel being preheated facilitates generation of steam from water in the raw material feed channel and, therefore, water rather than steam can be supplied from a source of the raw material to the raw material feed channel. This dispenses with necessity of use of a separate steam generating apparatus and, consequently, a reforming system can be downscaled as a whole. Also, since the preheating of the raw material feed channel allows the raw material and steam to be heated to a temperature close to the temperature range required for the steam reformation, the reformation reaction in the raw material reforming unit can be immediately initiated in an early state of the raw material reforming unit without the temperature of a reformation catalyst therein being lowered.
>
> Though the method for preheating the raw material feed channel is not limited to specified one, another preheating method may be employed in which, for example, at least a portion of the raw material feed channel is held

> in contact with the surface of at least one of the reforming reaction unit, the shift reaction unit and the CO oxidation unit (FIGS. 3 to 6, 8 to 24, and 26); at least a portion of the raw material feed channel is arranged at a position contactable with the burned exhaust gas from the heat source of the raw material reforming unit (FIG. 7); or at least a portion of the raw material feed channel is arranged at such a position that it can be directly heated by the heat source of the raw material reforming unit (FIGS. 25 and 27).

Thus, one having ordinary skill in the art reading Applicants' originally filed disclosure would readily understand that Applicants' were in possession at the time of filing the original application that water can be preheated to form steam. Moreover, one having ordinary skill in the art reading Applicants' originally filed disclosure would readily understand that Applicants' were in possession at the time of filing the original application of preheating by at least a portion of the raw material feed channel being held in contact with the surface of the CO oxidation unit.

Still further, attention is directed to the '479 patent at column 15, first full paragraph, wherein it is disclosed that:

> The reforming reaction unit 2 has a lower end fluid-connected with a raw material supply path 6. This raw material supply path 6 includes a raw material pipe 6a for the supply of only a reforming raw material therethrough and a steam pipe 6b for the supply of a steam (water) therethrough, both of said pipes 6a and 6b being joined together on their length. The steam pipe 6b has a portion disposed having been coiled around and in contact with the outer periphery of the reforming reaction unit 2 so that it can be preheated by heat evolved from the reforming reaction unit 2.

Still further, attention is directed to the '479 patent at column 23, first full paragraph, wherein it is disclosed that:

> The reforming reaction unit 2 comprises a coiled pipe filled with a reforming

> catalyst and has an upper end portion led outwardly from the upper portion of the combustion chamber 1 and fluid-connected with a raw material supply path 6. This raw material supply path 6 includes a raw material pipe 6a for the supply of only a reforming raw material therethrough and a steam pipe 6b for the supply of a steam (water) therethrough, both of said pipes 6a and 6b being joined together on their length. The steam pipe 6b has a portion disposed having been coiled around and in contact with the outer periphery of the combustion chamber 1 so that it can be preheated by heat evolved from the combustion chamber 1. The reforming reaction unit 2 has a lower end portion fluid-connected with an upper end portion of the shift reaction unit 3 through a connection tube that is led outwardly from the upper portion of the combustion chamber 1 after having extended through a center region of the combustion chamber 1.

Thus, one having ordinary skill in the art would readily ascertain that Applicants' were in possession at the time of filing their application of the raw material supply path being composed of separate pipes for supply of raw material or water.

Still further, attention is directed to Figs. 8-19, 21, 22, 23a, 23b, 24, 26, 27a and 27b for various examples where at least portions of the raw material supply path can separately supply raw material or water.

Applicants respectfully submit that one having ordinary skill in the art would readily understand, following Applicants' originally filed disclosure, that raw material and water can be fed and preheated in separate pipes, such as separate pipes 6a and 6b, and that these separate pipes can be in contact with the surface of the CO oxidation unit as disclosed at column 8, line 10.

The Examiner is reminded that the inquiry into whether the description requirement is met must be determined on a case-by-case basis and is a question of fact. *In re Wertheim*, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976). A description

as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. *In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). The examiner, therefore, must have a reasonable basis to challenge the adequacy of the written description. The examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims.

What is conventional or well known to one of ordinary skill in the art need not be disclosed in detail. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d at 1384, 231 USPQ at 94. If a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. See, e.g., *Vas-Cath*, 935 F.2d at 1563, 19 USPQ2d at 1116; *Martin v. Johnson*, 454 F.2d 746, 751, 172 USPQ 391, 395 (CCPA 1972) (stating "the description need not be in *ipsis verbis* [i.e., "in the same words"] to be sufficient").

In the instant situation, Applicants' originally filed disclosure readily indicates that Applicants' were in possession of "said CO oxidation unit including an outside surface, and being arranged to be cooled by atmospheric, raw material or water cooling of the outside surface" at the time of filing their application so that the specification and claims are not properly objected or rejected as containing new matter.

For example, it is clearly seen that Applicants' were in possession of cooling of the outside surface of the CO oxidation unit by water cooling such as, for example, by utilizing

a raw material supply path including at least a portion for feeding water on an outside surface of the CO oxidation unit. Similarly, it is clearly seen that Applicants' were in possession of cooling of the outside surface of the CO oxidation unit by raw material cooling such as, for example, by utilizing a raw material supply path including at least a portion for feeding raw material on an outside surface of the CO oxidation unit.

The Examiner is reminded that *ipsis verbis* support need not be present in the originally filed application. In the instant situation, Applicants respectfully submit that one having ordinary skill in the art at the time of Applicants' filing of the application would readily have understood that the raw material supply path can be one or more pipes, and can include the raw material and the water as a mixture in the one pipe, or can be separately fed in two pipes. Moreover, as originally disclosed at least a portion of these one or more pipes, such as pipes 6a and 6b, can be held in contact with any one of the reforming reaction unit, the shift reaction unit and/or the CO oxidation unit. While Fig. 6 shows the raw material supply path being one pipe, certainly one having ordinarily skill in the art would readily understand that Applicants' were in possession of separate supply paths or pipes, as exemplified for other reaction units, on the CO oxidation unit. This is especially the situation when Applicants' originally filed disclosure explicitly states that at least a portion of the raw material feed channel can be held in contact with the surface of at least one of the reforming reaction unit, the shift reaction unit and the CO oxidation unit.

Moreover, the Office Action agrees that one having ordinary skill in the art would have readily understood that Applicants had possession at the time of filing the original application of the concept that the water can be preheated to form steam, and the

preheating can be accomplished by at least a portion of the raw material feed channel being held in contact with the surface of the CO oxidation unit. Moreover, the Office Action agrees that Applicants had possession at the time of filing of the original application of a raw material supply path composed of separate pipes for the supply of raw material or water, respectively. However, the Office Action contends that the exemplified embodiments do not include separate pipes on the CO oxidation unit. In response to this assertion, Applicants again respectfully submit that while Fig. 6 shows the raw material supply path being one pipe, certainly one having ordinarily skill in the art would readily understand that Applicants' were in possession of separate supply paths or pipes on the CO oxidation unit, especially when Applicants' originally filed disclosure explicitly states that at least a portion of the raw material feed channel can be held in contact with the surface of at least one of the reforming reaction unit, the shift reaction unit and the CO oxidation unit.

Accordingly, the objection/rejection should be withdrawn.

Supplemental Declaration

In accordance with current Patent and Trademark Office procedure, a Supplemental Declaration will be submitted upon indication of allowance of the application.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the objection and rejection of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this Response or this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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